

CLINGENDAEL
INTERNATIONAL
ENERGY
PROGRAMME

| CIEP

ANNUAL REPORT 2018



May 2019

CIEP is an independent forum for governments, non-governmental organisations, the private sector, media, politicians and all other parties interested in changes and developments in the energy sector and energy related climate change issues.

CIEP organises lectures, seminars, conferences and roundtable discussions. In addition, CIEP staff members lecture in a variety of courses and training programmes. CIEP also contributes to international and European debates on energy by actively participating in numerous international conferences and expert workshops – where research findings are disseminated and inputs for further research are gathered. CIEP’s research, training and activities focus on economic and geopolitical dimensions of international energy and energy transition. CIEP is affiliated to the Netherlands Institute of International Relations ‘Clingendael’.

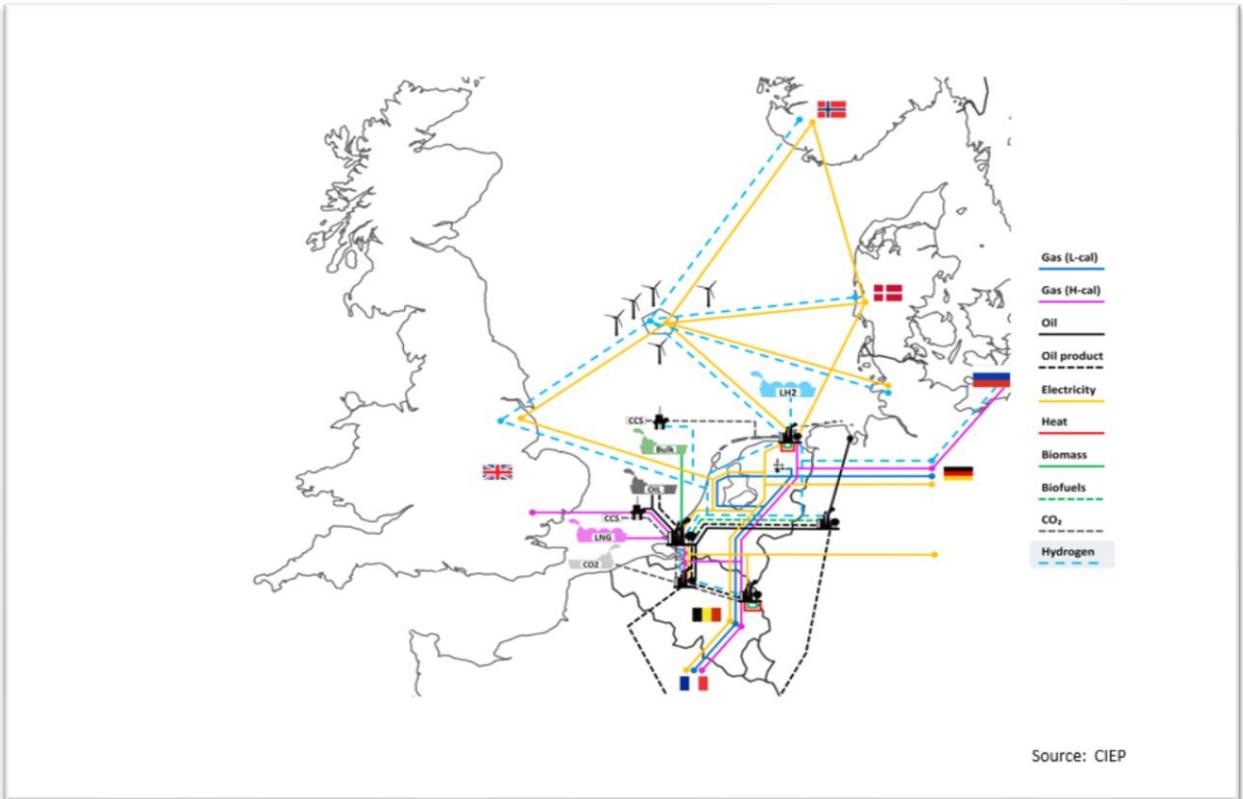
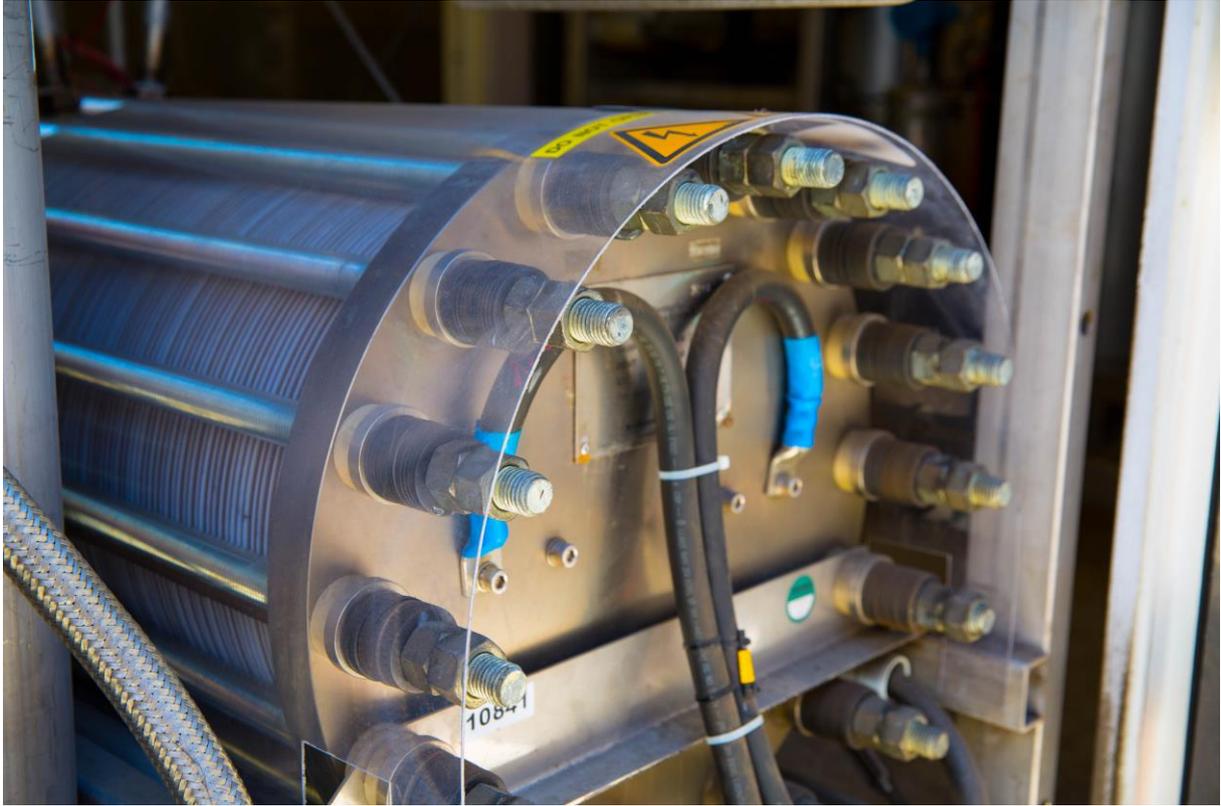
In 2018 CIEP is endorsed by The Netherlands Ministry of Economic Affairs and Climate Change, The Netherlands Ministry of Foreign Affairs, The Netherlands Ministry of Infrastructure and Water Management (project based), BP Europe SE-BP Belgium/ BP Europe SE-BP Nederland, Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A. ('Rabobank'), ENGIE Energie Nederland N.V., Neptune Energy Netherlands B.V., Eneco Holding N.V., EBN B.V., Esso Nederland B.V., Equinor ASA (was Statoil ASA), GasTerra B.V., N.V. Nederlandse Gasunie, Heerema Marine Contractors Nederland SE., ING Wholesale Banking N.V., Nederlandse Aardolie Maatschappij B.V., N.V. NUON Energy, TenneT TSO B.V., Oranje-Nassau Energie B.V., Havenbedrijf Rotterdam N.V., RWE Generation NL B.V., Shell Nederland B.V., Total E&P Nederland B.V., Koninklijke Vopak N.V., Wintershall Nederland B.V.

CIEP publications and research results are made available primarily through the CIEP website: www.clingendaelenergy.com

Title : CIEP Annual Report 2018
Copyright : 2019 CIEP
Published by : Clingendael International Energy Programme
Address : Clingendael 12, 2597 VH, The Hague, The Netherlands
P.O. Box 93080, 2509 AB, The Hague, The Netherlands
Telephone : +31 70 374 6700
E-mail : ciep@clingendaelenergy.com

TABLE OF CONTENTS

Table of Contents	3
Finding a new logic for energy systems	5
Board of the Foundation: Stichting Fonds Instituut Clingendael (SFIC) in 2018	7
CIEP supporting institutions	7
Staff	8
CIEP network	9
Internal organisation	9
CIEP publications	10
<i>CIEP Papers</i>	10
<i>Columns</i>	10
Events/Activities	10
Training	10
CIEP Meetings	11
Lectures, Speeches, Presentations, Media	11
<i>External Lectures/presentations</i>	11
<i>Other external meetings</i>	13
Website	14
Projects	16
Finances	17
Annex 1	18
About CIEP	18
Annex 2	20
Post-Paris New Business is Usual	20
CIEP Research Agenda from 2017 to 2021	20



FINDING A NEW LOGIC FOR ENERGY SYSTEMS AND ENERGY STRATEGIES

In 2018, global CO₂ emissions increased again, after a few years of stabilisation. Economic recovery and continued growth of coal-fired power generation in Asia were the main components of this increase. Slowly but clearly the impact of the national abatement strategies of various countries which are signatories to the Paris Climate Agreement, are becoming clear. It is a rich pallet of policies and intentions. Some countries are deep-diving in the renovation of their energy systems, others are focussing on energy efficiency and expanding forests as natural sinks. However, the idea that the Paris Agreement would stimulate emerging economies to skip a step on the energy ladder and avoid expanding coal-fired electricity capacity is not really materialising yet. Strategic choices to diversify demand for imported energy sources and in some cases domestic supplies and employment determine the energy mix.

Although the period of relatively low natural gas prices stimulated natural gas demand, also in the power sector, coal-fired power generation is still expanding in Asia. At the same time, renewable energy technologies, such as solar and wind, also expand in these economies. All these technologies are needed to satisfy growing demand, although it is worrisome that coal-burning without abatement technology (CC(U)S) maintains such a prominent position in the energy mix of countries. The likelihood that these plants will be retired early for climate change reasons is doubtful. According to the IEA World Energy Outlook 2018, 'coal plants make up one-third of CO₂ emissions today and half are less than 15 years old.' Policies to stimulate electric vehicles in countries with a large share of coal in the power mix may actually be counterproductive. However, the level of discomfort with increasing oil and oil product imports may steer policy in this direction.

The strategy to bank on early electrification of the economy and avoid later adaptation to the energy infrastructure may sound like a sound long-term strategy. However, when executed without a substantial decrease in the carbon footprint of the power sector, this strategy may not help to stay within reach of the Paris Agreement targets, because it may preclude capturing the benefits of lower CO₂ emission performance of oil and natural gas compared to coal in the short and medium term. If large emerging Asian economies follow this course, it may in turn lead, to substantial growth of emissions in the coming decades. This will require more radical (as well as deeper in the energy system) measures by all countries to remain within the Paris Agreement temperature margin in later decades. This situation could become the modern-day version of a beggar-thy-neighbour policy, enforcing deeper refurbishment of the energy economy in other countries that want to deliver on the Paris Climate Agreement. The expectation that the Paris Agreement would lead to an early adjustment to low carbon energy policies where possible may prove to be wrong. The relative price of natural gas and the expectation of ample supplies from various geographic sources could be the key element to prevent the current unfortunate marriage between coal and renewables from taking an even wider hold in important emerging economies in the coming years.

For natural gas to play a decisive role in power generation around the world, before renewable technologies can fully take over and can satisfy growing demand, large investments in natural gas production, pipelines, ships and liquefaction as well as regasification terminals are needed. This runs counter to the discussion in some OECD countries to stop investing in fossil fuels. We could ask the question whether withdrawal from investments in oil and natural gas will not simply lead to less influence on some of the national energy strategies when ownership shifts to other stakeholders that are not as committed to the Paris Agreement as they are to the wider strategic interests of certain States.

The same would apply to oil if a widespread adoption of electric vehicles took place ahead of a deeper decarbonisation of power production. If this is a short-term issue, electrification is less problematic than when the power mix is structured to emit more CO₂ in the longer term. Here, the way countries choose their strategies towards a low carbon economy is crucial for delivering the Paris Agreement goals. More attention should be paid, also politically, to how national strategies can balance future emissions, also in the short and medium term, with their import dependency comfort level and affordability in order to stay close to the logic of the energy and climate ladder. Developments in the power sector in large parts of Asia, but also the Middle East and Africa, are important for their future CO₂ profile because of the large demand for cooling, in addition to industrial and other domestic demand.

The predicament of finding a good low-carbon path that takes full account of the duration of GHG in the atmosphere and securing strategic interests is not easy. Not easy for geographies that also need to satisfy growing energy demand and not easy for post-industrial geographies that need to transform already complex energy systems. The open global energy economy that is often assumed to continue in the future may be one of those preconditions required to connect the two developments. This is however not a given and already the pressure to rely on domestic solutions rather than trade is becoming discernible, even though it could imply a heavier carbon burden for the rest of the world later on. The post-Paris period will need intensified diplomatic efforts to keep the world on a logical energy and climate track, while at the same time balancing the socio-economic and political ambitions.

Besides, the EU and more in particular some of its Member States are struggling to find the right path. Although the EU introduced an Emission Trading System (ETS) early on, the economic crisis and flaws in policy prevented the CO₂ emission permit price from rising sufficiently to generate tangible changes in the energy mix. Fortunately, the EU ETS system is doing more and more what it is designed to do in setting a price on carbon emissions and levelling the playing field across industries in the EU. Since mid-2017, the price of CO₂ emission permits increased from 5 euros per ton to some 25 euros per ton, finally approaching levels where investments in carbon efficiency are beginning to pay off. The recent EU ETS reform is supposed to deliver higher CO₂ emission permit prices in the next decade. Once these prices are beginning to bite, investments with the potential to change the energy system more fundamentally will become part of the long investment cycles in industry. However, the EU ETS is suffering today from its bad track record in delivering changes in the energy system. Some policy-makers are (again) trying to introduce policies that may distort the working of the emission market, while other policy-makers in the EU rightly focus on policies in the non-EU ETS sectors.

In 2018, CIEP worked on issues related to the Dutch climate tables but also on the low carbon future of the EU oil refining industry and hydrogen. Moreover, we have worked hard on the geo-economic and geopolitical consequences of the new energy and climate change policies. The picture that is beginning to emerge is mixed. On the one hand we see that certain governments and industries are making strides in bringing low carbon technologies to market, while on the other hand, we see developments that run counter to what we would expect to happen based on the logic of improving carbon and energy efficiency of the world energy system. Despite the large support in Paris and the elation of world leaders that an agreement was reached, the raw reality is that the implementation of these good intentions is not any closer. The somewhat shrouded role of redistributing the geopolitical costs and benefits should not be ignored. Most of the developments mentioned above will continue to be key elements of the agenda in the fifth project period (2017-2020) of CIEP.

BOARD OF THE FOUNDATION: STICHTING FONDS INSTITUUT CLINGENDAEL (SFIC) IN 2018



Drs. Gertjan Lankhorst, chair



Jeroen van Hoof, RA treasurer



Mw. Mr. Ida van Veldhuizen, member



Ir. Joost van Roost, member



Mr. Willem Russell, member



Ir. Rein Willems, member

The Clingendael International Energy Programme (CIEP) is a project of Stichting Fonds Instituut Clingendael (SFIC) since 1 September 2001. Each project period lasts four years. In 2017 a new (fifth) project period started and lasts until the end of 2020. 2018 was the second year of the fifth project period.

CIEP SUPPORTING INSTITUTIONS

In 2018, the following institutions supported CIEP:

BP Europe SE- BP Nederland
Coöperatieve Centrale Raiffeisen-Boerenleenbank B.A. ('Rabobank')
Dutch Ministry of Economic Affairs and Climate Change
Dutch Ministry of Foreign Affairs
Dutch Ministry of Infrastructure and Water Management (project based)
EBN B.V.
Eneco Holding N.V.
Esso Nederland B.V.
Havenbedrijf Rotterdam N.V.
Heerema Marine Contractors Nederland B.V.
GasTerra B.V.
ENGIE Energie Nederland N.V.
Neptune Energy Netherlands B.V.
ING Wholesale Banking N.V.
Koninklijke Vopak N.V.
Nederlandse Aardolie Maatschappij B.V.
N.V. Nederlandse Gasunie
N.V. NUON Energy

Oranje-Nassau Energie B.V.
RWE Generation NL B.V.
Shell Nederland B.V.
Statoil ASA, since May 2018 Equinor ASA
TenneT TSO B.V.
Total E&P Nederland B.V.
Wintershall Nederland B.V.

These institutions are a cross-section of energy sector stakeholders in the Netherlands and beyond. The companies are major international players in their field of expertise. The institutions contribute to CIEP's knowledge base and *vice versa*, especially within the CIEP Advisory Board and the Contact Group. Furthermore, staff members from the institutions participated actively in CIEP brainstorm groups and roundtables.

STAFF

In 2018, the CIEP staff comprised the following employees:

	Coby van der Linde, director, 0.9 fte (from 1-4-2018)
	Pier Stapersma, senior researcher, 1.0fte
	Luca Franza, researcher, 1.0 fte
	Jabbe van Leeuwen, researcher, 1.0 fte (from 15-3-2018)
	Kyle Ferriggi, researcher, 1.0 fte (from 1-9-2018)
	Maurits Kreijkes, researcher (until 13-3-2018)
	Michiel Nivard, researcher (until 31-1-2018)
	Wendy Auf dem Brinke, office manager, 0.8 fte
	Marco Blankenstijn, financial administration, 0.2 fte equi.

Other functions held by CIEP director in 2018:

Member of the Wise Person group of the IGU (since 2004)
Member of Regieteam Topsector Energie and vice chair TKI Wind WoZ
Member of the Supervisory Board of Wintershall Nederland B.V. (WINL) and Wintershall Noordzee B.V (WINL).
Member of the Supervisory Board of Alliander N.V.
Member of the international advisory board of KAPSARC (King Abdullah Petroleum Study and Research Center), Saudi Arabia

During 2018, the following students/interns contributed to the activities of CIEP:

Anke Gratz
Federico Cecchetti

Student intern Ruhr University Bochum; 1 April - 1 August 2018
Graduate from Institute of Int. and Dev. Studies (IHEID), Geneva; 1 september-15 December 2018

In addition to the research staff, senior fellows and associate fellows contributed to CIEP's work and network:



CIEP NETWORK

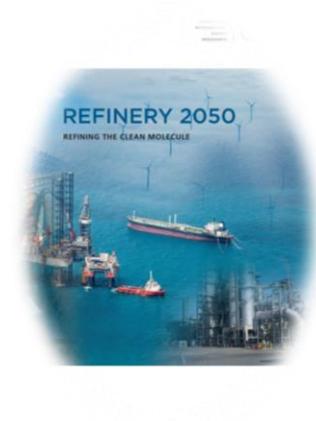
Many of our activities and studies are conducted in cooperation with partner organisations in the Netherlands and abroad. Over time a wide network of researchers has developed. The intensity of contact depends on the project at hand, but in general many of the contacts continue in other projects. We are also regularly approached to participate in consortia of researchers, in which CIEP decides to participate on a case by case basis depending on the relevance of the project for the public agenda of that period. The network of energy researchers is global, and each year new partners join the network. Some relations with research and activity partners have become very close and a variety of interactions take place every year, from keeping in touch on current issues to organising conferences and conducting joint studies. In April 2018, for instance, we jointly organised an international oil workshop with Kapsarc in The Hague on the oil industry and energy transition.

INTERNAL ORGANISATION

CIEP administers the allocation of staff and budgets to the different activities, research projects and other pursuits. CIEP uses time registration (BigBen software), which facilitates prioritising time and assets.

CIEP PUBLICATIONS

The following overview highlights 2018 publications, most of which are available on CIEP's website (www.clingendaelenergy.com/publications). CIEP (associated) staff also published articles elsewhere, which are typically listed under the tab "other work" (www.clingendaelenergy.com/otherwork) when we are permitted to post the contribution. In 2018 CIEP published 2 research papers.



CIEP PAPERS

- Refinery 2050: Refining the Clean Molecule, project for Fuels Europe, April 2018.
- Europe's Energy relations: Between Legacy and Transformation, May 2018.

COLUMNS

The 2018 columns of Coby van der Linde, Pieter Boot, Aad Correljé and Martien Visser appeared on the Energieforum website (www.energieforum.nl) and on the CIEP website (<http://www.clingendaelenergy.com/columns>).

EVENTS/ACTIVITIES

CIEP organised various events (meetings, training programmes, conferences, etc.) in 2018. See the list of events below, which is also available on <http://www.clingendaelenergy.com/events>; select 2018:

19 January 2018	European Gas Market workshop
9 April 2018	Kapsarc/CIEP 'Oil Strategies for the Low Carbon Energy Transition' workshop
7 June 2018	Roundtable Bio-energy for Power & Heat in the Netherlands in 2030
19 June 2018	BP Statistical Review 2018, Richard de Caux
6 September 2018	CIEP-Nogepa Gasday
2 October 2018	CIEP/Kapsarc KTAB workshop
22 October 2018	Briefing on the development of the Dutch Gas Market and security of supply (CIEP-GasTerra)
8 November 2018	CIEP Energy Lecture by Dolf Gielen, IRENA, on Hydrogen from Renewable Power
12 November 2018	VNPI-CIEP, Programme CO ₂ Reduction of Refineries in the Netherlands
15 November 2018	IEA-PBL-CIEP, World Energy Outlook 2018 by Fatih Birol
11 December 2018	Event on 'The Role of Hydrogen in low temperature heating; the case of NW England and potential in the Netherlands'

TRAINING

29 November 2018	From Theory to Practice: Integrated Energy System Transition at the Dutch Climate Tables
------------------	--

CIEP also facilitated a two-day training programme for the Diplomatic Institute to the Ministry of Foreign Affairs of the Republic of Bulgaria in Sofia (Luca Franza and Jacques de Jong)

Luca Franza and Coby van der Linde also taught the course 'International and European Gas Markets' in the Energy Master programme of SciencesPo in Paris in January-March 2018.

Coby van der Linde also taught a half-course on energy security at Groningen University in February-March 2018.

CIEP also contributed to training programmes directed to government officials, diplomats, personnel of international organisations and energy professionals, organised among others by the Clingendael Institute, Energy Academy and the Energy Delta Institute (EDI), Florence School of Regulation and CEER.

CIEP MEETINGS

Board Stichting Fonds Instituut Clingendael

15 May 2018

19 November 2018

Advisory board

19 June 2018

11 Decemer 2018

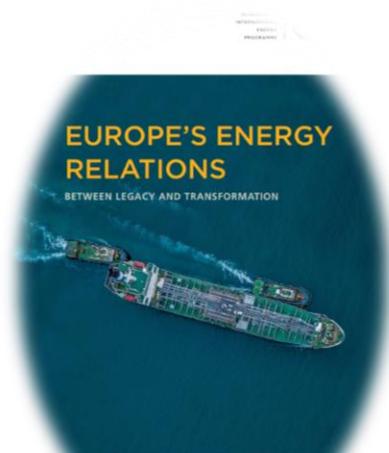
Contact group

20 March 2018

12 June 2018

9 October 2018

4 December 2018



Brainstorm groups (Fuel mix Group/Gasgroup/Oil Group):

Due to the intense meeting schedule of many of the brainstorm group members at the climate tables from March 2018 until December 2018, we have opted to concentrate the brainstorm groups and events (see above) which matched the agenda of the brainstorm groups and in which brainstorm group members and some other invitees actively participated.

Ad Hoc Brainstorm Group: Energy Transition and market design: In the fall we invited a small group of people involved in the climate tables and academia to discuss initially the economics of energy transition. This group has grown into a larger group around the theme 'hydrogen market creation and market design' at the request of some of the members to focus the discussion. This group met once in 2018 and will continue in 2019.

LECTURES, SPEECHES, PRESENTATIONS, MEDIA

During 2018, CIEP staff members gave numerous lectures, speeches, and presentations or chaired sessions during training courses, conferences and seminars. CIEP staff in 2018 also gave various radio, television and written media interviews.

EXTERNAL LECTURES/PRESENTATIONS

January 2018	Presentation for Managementteam Total Exploration & Production Nederland, C. van der Linde
February 2018	Presentation for Clingendael training programme for Junior diplomats from Indonesia; P. Staperma Saudi Aramco 2nd Global perspective session; C. van der Linde
March 2018	Russia Energy Conference, L. Franza Natural Gas World event (panel on Dutch Gas), Brussels, C. van der Linde

April 2018 Nuon 'customer day', C. van der Linde
 Lecture Tanzania delegation on gas governance, L. Franza & P. Stapersma
 Lecture at Course in International Politics, L. Franza
 Oil in Africa: Milieudefensie, Amsterdam, C. van der Linde
 University Maastricht Conference, L. Franza
 Presentation at economic and political upstream risk workshop Shell, C. van der Linde
 Lecture MENA diplomats Clingendael, L. Franza
 May 2018 GlobSec Tatra Summit Bratislava, J. de Jong
 Rondetafelgesprek Groningen Tweede Kamer, Coby van der Linde
 Presentation for French Delegation, L. Franza & P. Stapersma
 Havenbedrijf Rotterdam strategiemiddag, C. van der Linde
 June 2018 FuelsEurope Annual Conference, Brussels, C. van der Linde
 IAEE Conference Groningen, DNB-session, C. van der Linde
 Equinor Energy Perspectives 2018, Panel Chair, C. van der Linde
 WGC 2018: Chair of plenary 'The Future of Europe's Energy Market', Washington, C. van der Linde
 FSR Summer School Florence, J. de Jong
 EU Parliament, L. Franza
 WGC 2018, workshop 'The Future of Europe's Energy Market', Washington, L. Franza



July 2018 Training diplomats from 'Western – Balkans & Turkey', P. Stapersma
 Kernteam PVI van Min EZK, presentation CIEP Refining 2050, refining the clean molecule, C. van der Linde
 Training diplomats from Southern Africa, Clingendael, L. Franza
 September 2018 Training International Security, Clingendael, L. Franza
 Presentation at EURACTIVE gas conference, Brussel, L. Franza
 Round table discussion on Energy, Embassy of Denmark, C. van der Linde
 Keynote speech Fossil Free event van Candriam/Belfius bank, Gent, C. van der Linde
 The Green Village KVG, P. Stapersma
 Training Aramco Overseas, C. van der Linde
 Training Blue diplomacy, small island nations, P. Stapersma
 LBB 'Expertmeeting: geopolitiek anno 2018 – Energie', L. Franza
 Guest lecture University of Utrecht, invited by Gert Jan Kramer, C. van der Linde
 24 September 2018
 Benelux Talanoa Dialogue, Brussel, P. Stapersma
 NOC (National Oil Companies) Assembly Conference keynote speech, C. van der Linde
 MENA Diplomats training Clingendael, L. Franza
 Key note speech on energy transition and industry, PWC-meeting, Noordwijk, C. van der Linde

	EDI Europe, Presentation on 'A European perspective on EU-Russia energy relations', Brussels, C. van der Linde University of Leiden, Campus The Hague, Oxford students, presentation, P. Stapersma Presentatie ING offsite for the Management team Energy, C. van der Linde Brainstorming European Investment Bank, L. Franza
October 2018	FSR Annual Training, J. de Jong EU Gas Platts Summit, London, L. Franza (?) 'Sorooptimisten Collegetour' Vopak, C. van der Linde Presentation diplomats from the Eastern Partnership Clingendael, L. Franza Offshore Energy Conference, L. Franza
November 2018	Presentation 'Course International Politics (CIP), Clingendael, P. Stapersma Lecture to Central Asian Diplomats Clingendael, L. Franza Strategic China Session, Ministry of Foreign Affairs, C. van der Linde Year dinner VNPI, C. van der Linde
December 2018	Energy Lecture for MENA Diplomats Clingendael, L. Franza

OTHER EXTERNAL MEETINGS

January 2018	NZ Conference WEC-NL, J. de Jong en C. van der Linde
February 2018	ECF Net Zero Energy 2050 workshop Brussel, J. de Jong Participation CEPS-event Lab Brussel, J. de Jong
March 2018	Climate table Rotterdam-Moerdijk, C. van der Linde Studio Energie, P. Stapersma Paris Conference: Role of Gas in Decarbonisation (Paris Agreement Monitoring) (Luca Franza) CEER-FSR Course Brussel, J. de Jong
April 2018	TKI WoZ – AET-meeting, C. van der Linde Climate table Rotterdam – Moerdijk, C. van der Linde Participation policy council, Florence School of Regulation, Florence, J. de Jong
May 2018	Climate table Rotterdam-Moerdijk, various meetings, C. van der Linde VNCI meets KEK-industrie team, KEK-industrie team, J. van Leeuwen Sessie grondstoffen transitie, C. van der Linde
June 2018	Conference Nederland Waterstofland, J. van Leeuwen NUON Relationship diner, P. Stapersma Climate table Rotterdam-Moerdijk, various meetings, C. van der Linde KEK-meetings, J. van Leeuwen Diner Pansant Havenbedrijf Rotterdam, C. van der Linde Topteam + Regieteam AET, C. van der Linde Florence School of Regulation, Sustainable Workshop, Florence, J. de Jong VNCI, P. Stapersma Lunch session IRENA, BuZa, P. Stapersma
25-29 June 2018	World Gas Conference (Wise person IGU) 2018, Washington, C. van der Linde



July/August 2018 Vopak and delegation from Petronas Gas & Energy Commission of Malaysia, C. van der Linde
 Bezoek Chemelot, RLI, ABNAMRO, meetings KEK, J. van Leeuwen
 Delegation Mitsubishi, C. van der Linde, P. Stapersma, L. Franza
 Climate table Rotterdam – Moerdijk, C. van der Linde
 Regiotafel Rotterdam-Moerdijk, meeting with ‘Rebel groep’, C. van der Linde
 KEK Industrieteam Shell, J. van Leeuwen

September 2018 AET WoZ, C. van der Linde

October 2018 KEK meetings, J. van Leeuwen
 Kapsarc, NDC’s workshop, Parijs, C. van der Linde
 Capital Economics Conference, Kyle Ferriggi and Federico Cechetti
 Lunch meeting Danish Ambassador on energy research group collaboration
 NL-Denmark, C. van der Linde
 Wind meets Gas, J. van Leeuwen
 Topteam + Regieteam, C. van der Linde
 Skolkovo, Hydrogen Dialogue, Moscow, L. Franza

November 2018 Participation policy council, Florence School of Regulation, J. de Jong
 KEK-meeting, J. van Leeuwen
 IEA IEF Opec Forum on Gas and Coal, Paris, L. Franza

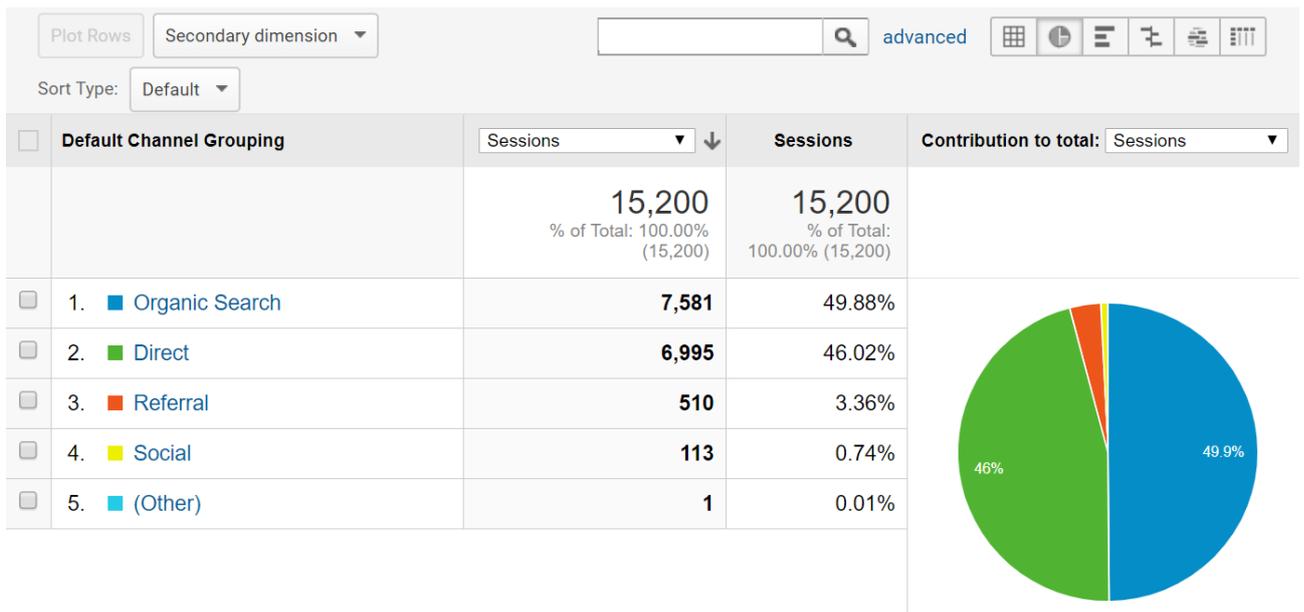
WEBSITE

Everything CIEP published or organised from 2001 onwards, could be found at www.clingendaelenergy.com. Internet is an important communication and information dissemination tool for CIEP.

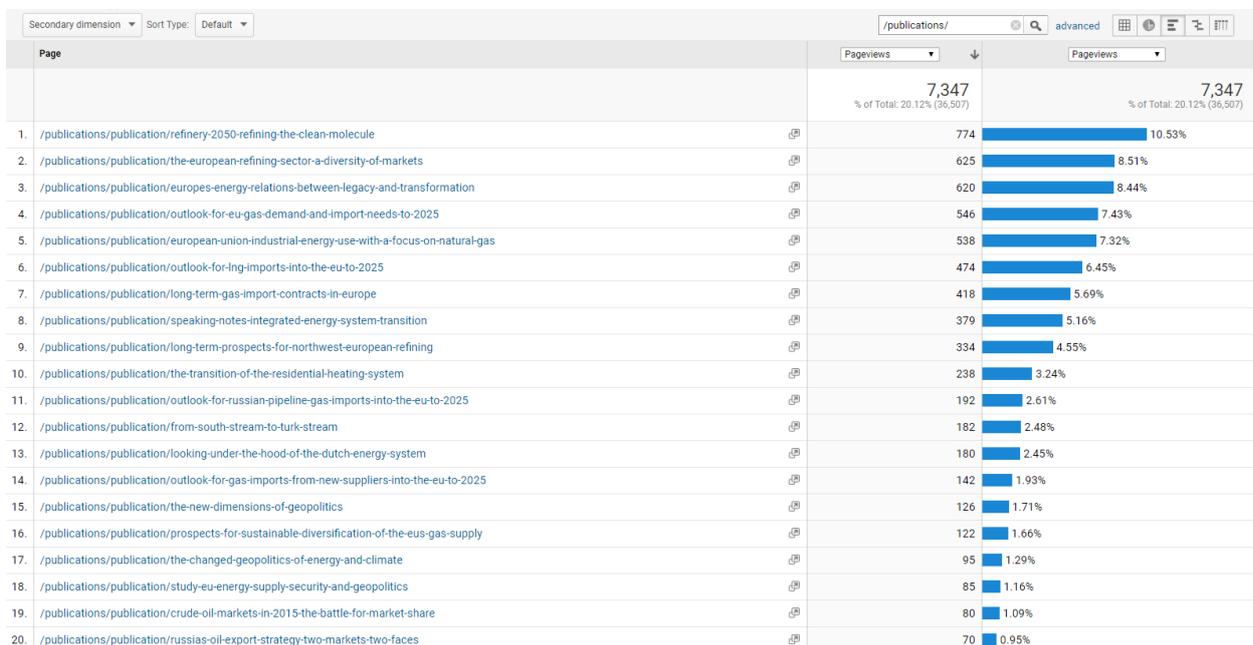
This is where our visitors came from in 2018:

Country	Sessions	Sessions	Contribution to total: Sessions
	15,200 % of Total: 100.00% (15,200)	15,200 % of Total: 100.00% (15,200)	
1. Netherlands	8,172	53.76%	
2. United States	852	5.61%	
3. United Kingdom	808	5.32%	
4. France	629	4.14%	
5. Germany	571	3.76%	
6. Belgium	506	3.33%	
7. Italy	356	2.34%	
8. India	224	1.47%	
9. Russia	210	1.38%	
10. Spain	205	1.35%	

This is how they reached us in 2018:



Unique page visits to our publications in 2018:



Unique page visits for events in 2018:

Page	Pageviews	Pageviews
	2,044 % of Total: 5.60% (36,507)	2,044 % of Total: 5.60% (36,507)
1. /events/event/ciep-nogepa-gas-day-2018	748	36.59%
2. /events/event/ciep-energy-lecture-by-dolf-glielen-irena-on-hydrogen-from-renewable-power	187	9.15%
3. /events/event/world-energy-outlook-2018	165	8.07%
4. /events/event/bp-statistical-review-of-world-energy-2018	154	7.53%
5. /events/event/ciep-nogepa-gas-day	110	5.38%
6. /events/event/the-role-of-hydrogen-in-low-temperature-heating-the-case-of-nw-england-and-potential-in-the-netherlands	93	4.55%
7. /events/event/european-gas-market-workshop	91	4.45%
8. /events/event/ciepnogepa-gas-day	61	2.98%
9. /events/event/understanding-the-energy-transition-iv	56	2.74%
10. /events/event/co2-reductie-van-raffinaderijen	50	2.45%
11. /events/event/presentation-iea-weo-2017-	44	2.15%
12. /events/event/bio-energy-for-power-heat-in-the-netherlands-in-2030	37	1.81%
13. /events/event/ciep-nogepa-gas-day-2017	35	1.71%
14. /events/event/presentation-of-the-2016-world-energy-outlook	30	1.47%
15. /events/event/bp-statistical-review-of-world-energy-2017	25	1.22%
16. /events/event/save-the-date-co2-reductie-van-raffinaderijen	25	1.22%
17. /events/event/exxonmobil-outlook-for-energy-a-view-to-2040	22	1.08%
18. /events/event/corporate-perspectives-on-energy-transition-allard-castelein-port-of-rotterdam	13	0.64%
19. /events/event/dutch-energy-policy-frontier-economics-scenarios-for-the-dutch-electricity-supply-system	13	0.64%
20. /events/event/world-energy-outlook-a-world-in-transformation	10	0.49%

Unique page visits 'overall' in 2018:

Page	Unique Pageviews	Unique Pageviews	Contribution to total: Unique Pageviews
	28,654 % of Total: 100.00% (28,654)	28,654 % of Total: 100.00% (28,654)	
1. /	4,978	17.37%	
2. /publications	4,096	14.29%	
3. /about_us	1,284	4.48%	
4. /about_us/vacancies	1,077	3.76%	
5. /about_us/staff	838	2.92%	
6. /about_us/staff/member/coby-van-der-linde	827	2.89%	
7. /events	692	2.42%	
8. /publications/publication/refinery-2050-refining-the-clean-molecule	689	2.40%	
9. /publications/publication/the-european-refining-sector-a-diversity-of-markets	573	2.00%	
10. /events/event/ciep-nogepa-gas-day-2018	547	1.91%	

PROJECTS

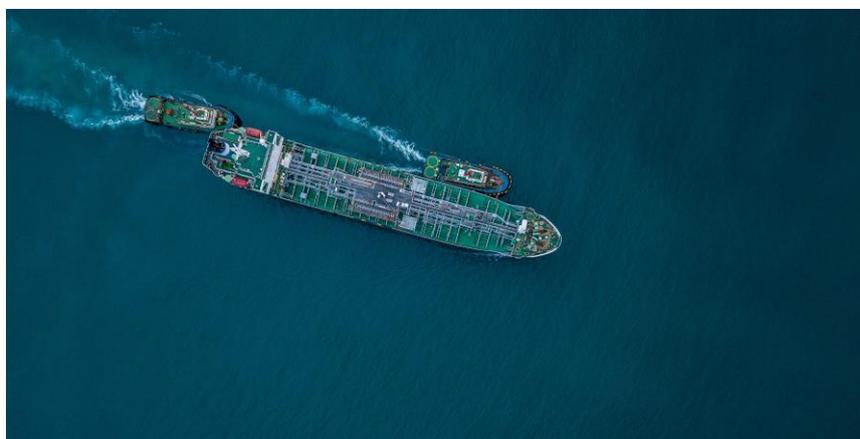
Ciep contributed in kind to the master class project of Publieke Zaken (for members of parliament). In 2018, a research project on the role of gas in energy transition for the IGU was finalised and presented at the WGC 2018 in Washington DC. A publishable version of this study is prepared for 2019. For Fuels

Europe, Brussels, CIEP conducted a project on decarbonisation strategies for refineries 2030-2050. The report was published on the website in April 2018. In the period March 2018-July 2018, CIEP participated in the climate table Rotterdam-Moerdijk. Moreover, CIEP also collected data and prepared texts for the final report (to be found at: <https://www.portofrotterdam.com/nl/nieuws-en-persberichten/klimaatplannen-industrie-rotterdam-moerdijk>).

FINANCES

2018 was the second year of the fifth project period (2017 to the end of 2020). Income was higher and costs were lower compared to 2017. In 2018, we had to combine a substantial planned reduction in staff with a slightly growing project portfolio, which implied that we underspend on the public agenda in 2018. These funds will be used in the next project years 2019 and 2020 by drawing on the Destination Public Reserves, a facility to balance expenditures and public project income over the project years. The overall financial result for 2018 was a surplus of 76.988.

	2018	2017	2016
Contribution stakeholders	€ 625.000	€ 625.000	€ 715.000
Project income	€ 59.509	€ 31.579	€ 53.341
Other income or cost	-€ 692	-€ 413	€ 612
Staff costs	€ 480.099	€ 632.828	€ 730.443
Deprecation cost	€ 7.687	€ 9.203	€ 5.014
Public activity costs	€ 33.748	€ 45.371	€ 55.385
Foundation costs	€ 84.813	€ 78.120	€ 122.828
Profit Taxes (Paid or return)	€ 483	-€ 2.053	€ 6.424
TOTAL RESULT	€ 76.988	-€ 107.321	-€ 151.141
Liquidity	€ 1.135.063	€ 1.007.045	€ 1.197.975
Foundation Capital (CIEP)			
CIEP reserves	€ 957.462	€ 955.330	€ 963.844
Destination Public Reserves	€ 74.856	€ -	€ 98.807



ANNEX 1

ABOUT CIEP

Introduction

In September 2001, the Netherlands Institute for International Relations, 'Clingendael', launched the *Clingendael International Energy Programme* (CIEP). Supported by twelve institutions from the public and private sectors, CIEP participates in and seeks to make significant and substantive contributions to the public debates on national and international developments in the energy sector. After the initial period 2001-2004, CIEP continued largely on the same footing as the previous years based on the plan and estimated budget as described in the document *CIEP 2005-2008, Towards a European Forum* and agreed upon by the Board of Stichting Fonds Clingendael and seventeen participating institutions.

The main reasons for initiating CIEP were:

1. The need for a forum to discuss developments in the European energy markets, e.g. the liberalisation of the European energy market, which will impact the organisation of the market, government energy policies and strategies of companies operating in the energy sector. These changes in the internal European market take place against the backdrop of an expanding European Union, increased dependency on imported fossil fuels and efforts to address environmental concerns;
2. The concerns raised in public debates about security of supply and a growing import dependency, not only for European Union member states but also for other major consumer regions. These concerns will influence the policy options and choices of both consumers and producers. The political and economic developments in, for instance, the United States, Russia, the Middle East, the Caspian Sea region, and Asia, are therefore important in assessing the developments in the European energy situation.

Mission

Through research, the publication of studies, information releases (particularly through the media and internet) and the organisation of courses and training programmes, CIEP makes a fundamental contribution to the public debate on international politics and economic developments in the energy sector (oil, gas and electricity).

Objectives

- To serve as an independent forum for governments, non-governmental organisations, the business community, politics, the academic world, the media and other stakeholders or interested parties.
- To gather and develop information and knowledge about international political and economic developments in the energy sector on the basis of research, supported by a documentation system.
- To propagate information and knowledge about international political and economic developments in the energy sector by means of seminars, conferences, lectures, courses, publications and information releases via the media.
- To initiate discussions about current events and future developments relevant to the energy sector, energy policy, legislation and the relationship between the government and the private sector.

Research and activities

CIEP's research and activities focus on energy markets (oil, gas and electricity) and policy-making in the European Union and geopolitics of international energy policy-making and markets.

ANNEX 2

POST-PARIS NEW BUSINESS IS USUAL

CIEP RESEARCH AGENDA FROM 2017 TO 2021

After a long period of convergence of international energy markets, where coal, oil, natural gas, hydro and nuclear contributed to the national energy mixes, new energy technologies are now transforming both national and international energy markets and energy policy-making. At the global level, the share of these new energy technologies is still small, but at some national and regional levels these shares are expanding rapidly. Changes are both fast and slow, depending on the level of analysis (world or national), the type of demand (heat, cooling, mobility) and the ability to (technically and economically) serve the various types of demand. As a result, the interaction between the various parts of the energy system, for instance in the energy value chains but also across various types of energy conversion technologies, is changing too. This offers challenges and opportunities in sustaining energy system stability.

The new technologies are currently mainly focussed on the electricity sector where, in some countries, they already have a large impact on the **organisation of the market**. The intermittency of some of the generating technologies and the lack of sufficiently economically viable storage technologies create markets where traditional and new energy technologies must co-exist, and where market forces and government policies compete. The change from commodity-oriented markets to more capital intensive ones, with government or consumer guaranteed payments, is one of the issues facing policy-makers and investors. The cost of capital, the availability of land and acceptance may become more prominent issues in the coming years.

In emerging economies, often with more state-oriented energy markets, renewables are also beginning to impact the organisation of the energy sector, particularly where subsidies on traditional fuels are being reduced and new technologies are being introduced. In many countries, the organisation of the market is becoming more hybrid, emphasising the renewed importance of government policies and regulation.

Moreover, the new energy technologies will not only impact the energy and/or power mix, but will also change the specialisation of certain fuels to serve **demand in other sectors**. It is for instance likely that oil products, which now have a near monopoly in the global demand for mobility, will be increasingly challenged by other energy technologies (such as biofuels, LNG, electricity) and the development of new appliances. In heating, electrical solutions will compete with natural gas and oil products. Depending on the energy mix choices of countries and the availability of new appliances, some countries may develop into an energy economy with a larger share for electricity (due to electrification), while others may remain focussed on (low carbon) liquids and gases. The latter group could be countries with a variety of energy technologies and infrastructures, where liquids and gasses are used more intensely across the industrial and residential sectors. Interestingly, the economic structure of countries and the energy technology solution spaces or optionality may show much **more variation across countries** than before. Such a development could also impact energy trade flows and the security of demand for producing countries of natural gas, crude oil and coal.

It is clear that the changing demand for energy in the coming years will impact the **energy value chains**. On a global scale, demand is expected to grow substantially, despite energy efficiency gains. Growth of energy demand, however, will be unevenly distributed over economies, but also across sectors. In the OECD countries, energy demand is expected to be relatively flat, implying that new energy technologies come at the expense of traditional fuels, while in emerging markets, both new and traditional energy technologies can grow. In the refining business we already see the influence of changing end-consumer markets and investments by IOCs and NOCs along the value chain, challenging the market model of various market refineries.

Technology is playing an increasingly important role in the development and composition of the energy mix. The idea that ‘the era of cheap oil/energy is over’ was proven wrong by the emergence of light tight oil in North America. Moreover, the idea that cheap energy is over is also vindicated by the **rapid decline in production costs** of solar and increasingly also of wind energy. In oil and natural gas, innovation unlocked previously stranded oil and gas assets at a cost below the price of many deep offshore projects and other more conventional resources, which had until 2008 held the promise of being the ‘next game in town’. But also the development of the solar value chain may hold some surprises. The development of production methods, tailor-made production runs, the efficiency of the panels and the **focus on promoting domestic production** by many governments may change the concentration of production in China to a more distributed model of production. At the same time, the gas value chain is rapidly globalising, with more LNG coming on stream, connecting the previous regionally organised gas markets. The challenge for gas is to develop new markets both in power generation and mobility, while competing with various other energy technologies in heating markets. The price of gas and the cost of gas production capacities is crucial here, particularly when markets are re-designed to favour other technologies. Currently the qualities of gas, such as flexibility, energy per carbon emitted, and other pollutants, are not properly valued in commodity markets nor in government policies, and due to the geopolitical nature of some gas trade, may never be properly valued at a global level. Nevertheless, natural gas could become the flex fuel of the electricity sector in many economies, as a companion of intermittent energy technologies, while being challenged by new heat technologies in the industrial and residential sectors. Nuclear has potential to grow in energy intensive emerging markets, but new investments are difficult in the current low price markets. The coal industry is looking at India as its last large potential market, but prospects to grow in the longer term are slim, unless CCS or other abating technologies become economically available. Understanding the drivers of government policies and international market developments are crucial elements in future investment and trade opportunities and international energy relations.

The development of the various energy value chains has always been strongly linked to demography and economic growth. The prospect of a period of **lower global economic growth**, but also (increased) decoupling of energy demand growth from economic growth is another large uncertainty for investors in energy. New industrial production methods and organisation of production could impact substantially on the demand for energy. Moreover, in a low economic growth environment, energy demand and supply will also grow less buoyant, particularly when government policies are at the same time biased towards an increased share for certain energy technologies and not others. In the post-Paris era, this may change the inter-fuel dynamics, boosting growth of new energy technologies to the detriment of more traditional (imported) fuels. Much depends on translating the intended national climate change policies of Paris into execution of the plans. The cost of capital, the

availability of (abatement) technology, access to energy resources and the ability of consumers to adopt new energy products and services will determine the pathways for certain fuels in certain economies.

The uncertainties related to the speed of transition, the cost of energy, the development of new energy technologies, the impact of government policy-making could be deepened by the growing **geopolitical conflicts** in, for instance, the Middle East and Europe, where energy investments, production and trade could easily become snarled into these conflicts. Security of demand for producers of coal, oil and natural gas could become a serious issue, and could lead to social-economic unrest when these economies have to adjust to new international energy markets before they have fully monetised their reserves. The speed with which economies are able to adopt to new energy technologies and at what socio-economic cost will be as important in determining the **future international energy relations** as the ability to access energy in freely traded international markets. For instance, tensions in Asia could hinder development of more integrated energy markets and re-orient policy-making on security of supply issues rather than market developments and climate change policies.

CIEP research will continue to focus on these developments across energy value chains and economies with the dynamics of new energy technologies impacting investments, demand, supply and policy-making always in mind. Both the international and the European developments in markets and policy-making will be key, depending on the topic. We will continue to research developments in international and European natural gas and oil markets, and intensify efforts to analyse the impact of new energy technologies on various international markets and government policies.